



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/803,201

03/18/2004

Leonid Shmaenok

081468-0308088

4831

909

7590

11/14/2008

PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

KIKNADZE, IRAKLI

ART UNIT

PAPER NUMBER

2882

MAIL DATE

DELIVERY MODE

11/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/803,201	Applicant(s) SHMAENOK, LEONID	
	Examiner IRAKLI KIKNADZE	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10, 22-34, 36-52, 54-64 and 66-68 is/are allowed.
- 6) ☒ Claim(s) 11-14, 21, 35, 53 and 65 is/are rejected.
- 7) ☒ Claim(s) 15-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/641,455.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In response to the Office action mailed on April 16, 2008 the Amendment has been received on July 9, 2008.

The specification has been amended.

Claims 1-68 are currently pending in this application.

The indicated allowability of claims 12-21 is withdrawn in view of the newly discovered reference(s) to Spielberg et al. (US Patent 3,418,467). Rejections based on the newly cited reference(s) follow.

Drawings

2. The drawings were received on July 9, 2008. These drawings are acceptable.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11, 21, 35, 53 and 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The phrase “a surface of the plate is rough” renders the claims indefinite since the resulting claims do not clearly set for the metes and bounds of the patent protection desired. The claims are directed for trapping atomic and microscopic particles and for this minuscule levels the surface of plates are always relatively rough (having a surface marked by irregularities, protuberances, or ridges; not smooth). It is unclear to what degree of the surface roughness the applicant intends to claim for suppressing undesired atomic and microscopic particles.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

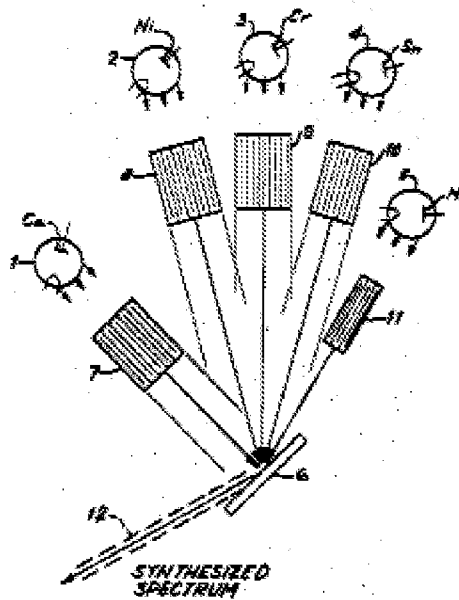
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 12, 14 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Spielberg et al. (US Patent 3,418,467).

With respect to claim 12, Spielberg teaches a filter (7, 8, 9, 10 or 11) for suppressing undesired atomic and microscopic particles which are emitted by a



radiation source (1, 2, 3, 4 or 5),

wherein a plurality of plates are positioned substantially parallel in relation to one another, for trapping atomic and microscopic particles on their respective surfaces, wherein the plates are directed away from the radiation source (column 2, lines 47-52; it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art satisfying the claimed structural limitations).

With respect to claims 14 and 21, Spielberg teaches that the plates are positioned such as to be evenly distributed in relation to one another (see figure) and a surface of the plates is rough (since the claim is directed for trapping atomic and

Art Unit: 2882

microscopic particles, for this minuscule level the surface of plates are always relatively rough).

8. Claims 12-14 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Prins (US Patent 6,275,568 B1).

With respect to claim 12, Prins teaches a filter (5) for suppressing undesired atomic and microscopic particles which are emitted by a radiation source (1) (Figs 1 and 4),

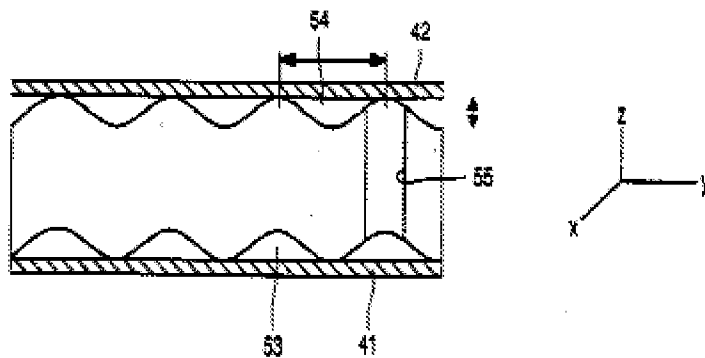


FIG. 4

wherein a plurality of plates (41 and 42) are positioned substantially parallel in relation to one another, for trapping atomic and microscopic particles on their respective surfaces, wherein the plates are directed away from the radiation source (column 4, lines 20-23 and 51-55; column 5, lines 27-38; it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art satisfying the claimed structural limitations).

With respect to claims 14 and 21, Prins teaches that the plates are positioned such as to be evenly distributed in relation to on another (see Figures 4-6) and a surface of the plates is rough (since the claim is directed for trapping atomic and microscopic particles, for this minuscule level the surface of plates are always relatively rough).

With respect to claim 13, Spielberg teaches that the plates are positioned in a honeycomb construction (Fig. 6; column 4, lines 51-55).

Allowable Subject Matter

9. Claims 1-10, 22-34, 36-52, 54-64 and 66-68 are allowed.

10. Claims 11, 35, 53 and 65 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 15-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 15 and 16, prior art fails to teach or make obvious the filter, wherein the filter is to be disposed in a buffer gas, and wherein a distance between the radiation source and a proximal end of the filter in relation to the radiation

source is selected subject to a pressure and a type of the buffer gas as claimed in combination with all of the remaining limitations of the base claim or any intervening claims.

With respect to claims 17 and 18, prior art fails to teach or make obvious the filter, wherein a length of the filter, which is the distance between a proximal end of the filter and a distal end of the filter in relation to the radiation source, is selected subject to a pressure of a buffer gas, in which the filter is to be disposed, and a form of the filter as claimed in combination with all of the remaining limitations of the base claim or any intervening claims.

With respect to claims 19 and 20, prior art fails to teach or make obvious the filter, wherein the number of plates in the filter, a thickness of a plate in the filter, a distance between two plates in the filter or any combination thereof is based on a desired optical transparency of the filter as determined by the formula:

$d/(d+d_f) \times 100\%$ wherein d is a distance between two plates of the filter at a proximal end of the filter in relation to the radiation source and d_f is a thickness of a plate of the filter as claimed in combination with all of the remaining limitations of the base claim or any intervening claims.

With respect to claims 22-34 and 36-39, prior art fails to teach or make obvious a filter to suppress undesired atomic and microscopic particles from a radiation source, the filter comprising a plurality of foils or plates having a surface configured to trap atomic and microscopic particles thereon, wherein each foil or plate essentially extends

Art Unit: 2882

away from the radiation source as claimed in combination with all of the remaining limitations of the base claim or any intervening claims.

With respect to claims 40-52 and 54-60, prior art fails to teach or make obvious a lithographic apparatus, comprising: a filter comprising a plurality of foils or plates having a surface configured to trap thereon atomic and microscopic particles from a radiation source, wherein each foil or plate essentially extends away from the radiation source; and at least one optical element configured to receive radiation from the radiation source via the filter as claimed in combination with all of the remaining limitations of the base claim or any intervening claims.

With respect to claims 61-64 and 66-68, prior art fails to teach or make obvious a radiation source system, comprising: a filter to suppress undesired atomic and microscopic particles comprising a plurality of foils or plates having a surface configured to trap thereon atomic and microscopic particles from the plasma source, wherein each foil or plate essentially extends away from a plasma source as claimed in combination with all of the remaining limitations of the base claim or any intervening claims.

Response to Arguments

12. Applicant's arguments with respect to claims 1-68 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRAKLI KIKNADZE whose telephone number is (571)272-2493. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Irakli Kiknadze

/Irakli Kiknadze/

Primary Examiner, Art Unit 2882

/I. K./ November 3, 2008

Application/Control Number: 10/803,201
Art Unit: 2882

Page 10